

# SANDIA NATIONAL LABORATORIES/CALIFORNIA

## Agenda

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### 10<sup>th</sup> International Workshop on Hydrogen Isotopes in Fusion Reactor Materials

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Monday, May 31, 2010  
Pleasanton Hilton Hotel

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8:00 am	<b>Registration</b> .....
8:30 am	<b>Welcome and Orientation</b> .....
	<b>Tungsten – Chair: Yoshio Ueda</b>
8:40 am	<b>Temperature dependence of deuterium retention at displacement damage in tungsten</b> .....
	<i>W.R. Wampler</i>
9:00 am	<b>Deuterium retention in tungsten at high level of displacement damage</b> .....
	<i>B. Khrripunov</i>
9:20 am	<b>Deuterium Retention in Rolled and Recrystallized Tungsten</b> .....
	<i>W. Jacob</i>
9:40 am	<b>Deuterium retention in tungsten damaged by high heat load</b> .....
	<i>O.V. Ogorodnikova</i>
10:00 am	<b>Break</b> .....
10:20 am	<b>PWI studies on W-PFM for EAST</b> .....
	<i>G.N. Luo</i>
10:40 am	<b>Discussion (Tungsten)</b> .....
	<b>Graphite and Carbon Films – Chair: Joachim Roth</b>
11:20 am	<b>Hydrogen retention in volumetric CFC structures</b> .....
	<i>L. Begrambekov</i>
11:40 am	<b>Hydrogen isotope retention and removal in plasma facing graphite tile</b> .....
	<i>M. Yoshida</i>
12:00 pm	<b>Lunch</b> .....

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1:00 pm	<b>Thermal desorption of tritium from carbon based tiles .....</b>	<i>E. Pajuste</i>
1:20 pm	<b>Comparison of characteristics on opposite sides of films formed at plasma interaction with T-10 tokamak discharge chamber surface .....</b>	<i>B.N. Kolbasov</i>
1:40 pm	<b>Distinguishing Features of Carbon-Based Films in Tokamaks.....</b>	<i>A.Spitsyn</i>
2:00 pm	<b>Thermal Desorption from Carbon Based Films Collected in T-10 and Those Deposited in Magnetron Discharge .....</b>	<i>A.Pisarev</i>
2:20 pm	<b>Discussion (Graphite and Carbon Films) .....</b>	
	<b><u>Mixed Materials / Beryllium – Chair: Tetsuo Tanabe</u></b>	
3:00 pm	<b>Deuterium Retention and Release from Be-containing Mixed Materials and Consequences for ITER Tritium Inventory Control.....</b>	<i>J. Roth</i>
3:20 pm	<b>An overview of fuel retention determined by post mortem analysis of tiles removed from JET.....</b>	<i>A.Widdowson</i>
3:40 pm	<b>Break.....</b>	
4:00 pm	<b>Effect of Simultaneous Plasma and Transient Heating on Beryllium Plasma Facing Components .....</b>	<i>K.R. Umstadter</i>
4:20 pm	<b>Structure and Retention of Carbon Deposition Layer on Tungsten .....</b>	<i>Y. Ueda</i>
4:40 pm	<b>Recycling of Deuterium and the Cathode Material in Magnetron .....</b>	<i>Y. Gasparyan</i>
5:00 pm	<b>Discussion (Mixed Materials / Beryllium) .....</b>	
6:15 pm	<b>Dinner (Motor coach departs for Purple Orchid Inn).....</b>	

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**Tuesday, June 1, 2010**  
**Pleasanton Hilton Hotel**

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## **Modeling & Fundamental Studies – Chair: Brian Wirth**

8:30 am	<b>On hydrogen behavior at practical surface.....</b>	<i>T. Tanabe</i>
8:50 am	<b>Quantum study of beryllium reactivity: surface reactivity and formation of mixed materials .....</b>	<i>Y. Ferro</i>
9:10 am	<b>Characterization of adsorbed hydrogen on tungsten and beryllium surfaces.....</b>	<i>R. Kolasinski</i>
9:30 am	<b>Tritium behaviors near surface region and bulk of metals.....</b>	<i>T. Otsuka</i>
9:50 am	<b>Break.....</b>	
10:10 am	<b>Transient Hydrogen Fugacity in Pulse-Heated Metal Hydrides for Testing Models of ELM and Disruption Effects .....</b>	<i>D. Cowgill</i>
10:30 am	<b>Effective Tritium Breeding Ratio in a DT fusion Reactor .....</b>	<i>M. Nishikawa</i>
10:50 am	<b>Discussion (Modeling &amp; Fundamental Studies) .....</b>	
	<u><b>Boronization / Conditioning – Chair: Wolfgang Jacob</b></u>	
11:30 am	<b>Efforts on the hydrogen isotopes controlling on HT-7 and EAST tokamak.....</b>	<i>J.S. Hu</i>
11:50 am	<b>Hydrogen isotopes retention after boronization in-situ in the tokamak T-11M plasma shots .....</b>	<i>O. Buzhinskij</i>
12:10 pm	<b>Lunch .....</b>	
1:10 pm	<b>Thermo-Oxidation of Carbon films with Tungsten Impurities .....</b>	<i>J.W. Davis</i>

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1:30 pm	<b>Cleaning Techniques for First Optics in ITER .....</b>	<i>I.Arkhipov</i>
1:50 pm	<b>Discussion (Boronization / Conditioning) .....</b>	
	<b><u>Permeation / C-X Measurements – Chair: Alexander Pisarev</u></b>	
2:30 pm	<b>Deuterium Ion Driven Permeation Dependence on Tungsten Microstructure.....</b>	<i>H.T. Lee</i>
2:50 pm	<b>Gas-Driven Deuterium Permeation Studies of Fusion-Related Materials .....</b>	<i>R. Karnesky</i>
3:10 pm	<b>Bulk Hydrogen Gas Permeation in High Temperature Ni-based Alloys.....</b>	<i>P. Sharpe</i>
3:30 pm	<b>Break.....</b>	
3:50 pm	<b>Wall pumping studies in spherical tokamak QUEST using hydrogen permeation measurements and static gas balance method .....</b>	<i>S.K. Sharma</i>
4:10 pm	<b>Discussion (Permeation / C-X Measurements) .....</b>	
4:50 pm	<b>General Discussion: (Special topic: Research Needs for ITER and Beyond).....</b>	<i>Chair: Rob Goldston</i>
5:50 pm	<b>Adjourn .....</b>	